



2013 Fire Season Considerations and Outlook

SWCC Predictive Services

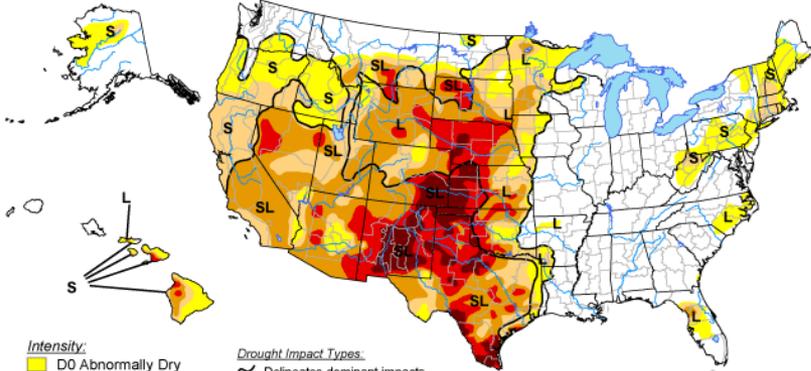
Updated May 15, 2013

Seasonal Fire Potential Main Factors

1. Drought
2. Fine Fuels Condition
3. Seasonal Temperature & Precipitation
4. Spring & early Summer Weather Patterns
5. Monsoon

U.S. Drought Monitor

May 7, 2013
Valid 7 a.m. EDT



Intensity:

■ D0 Abnormally Dry
■ D1 Drought - Moderate
■ D2 Drought - Severe
■ D3 Drought - Extreme
■ D4 Drought - Exceptional

Drought Impact Types:

Delineates dominant impacts
 S = Short-Term, typically <6 months
 (e.g. agriculture, grasslands)
 L = Long-Term, typically >6 months
 (e.g. hydrology, ecology)

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.



Released Thursday, May 9, 2013
Author: David Miskus, NOAA/NWS/NCEP/CPC

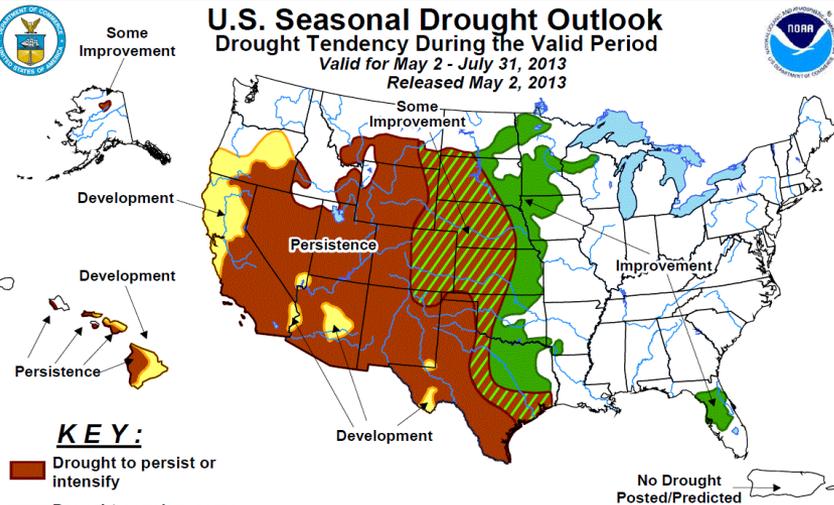
<http://droughtmonitor.unl.edu/>

Fire Season 2013: Drought

- Severe+ long term drought ongoing across much of the region
- Drought less severe over AZ high country & portions of west TX
- Drought outlook calls for drought to persist/worsen through early summer
- At this point, long term drought impacts are a "given" and the best we can hope for is temporary mitigation of drought impacts with any wetter periods
- Impact: "Increased volatility & severity during fire season...especially in heavier fuels regimes"

U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period
Valid for May 2 - July 31, 2013
Released May 2, 2013



KEY:

■ Drought to persist or intensify
■ Drought likely to improve, impacts ease
■ Drought development likely

Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events – such as individual storms – cannot be accurately forecast more than a few days in advance. Use caution for applications – such as crops – that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity). For weekly drought updates, see the latest U.S. Drought Monitor. NOTE: the green improvement areas imply at least a 1-category improvement in the Drought Monitor intensity levels, but do not necessarily imply drought elimination.

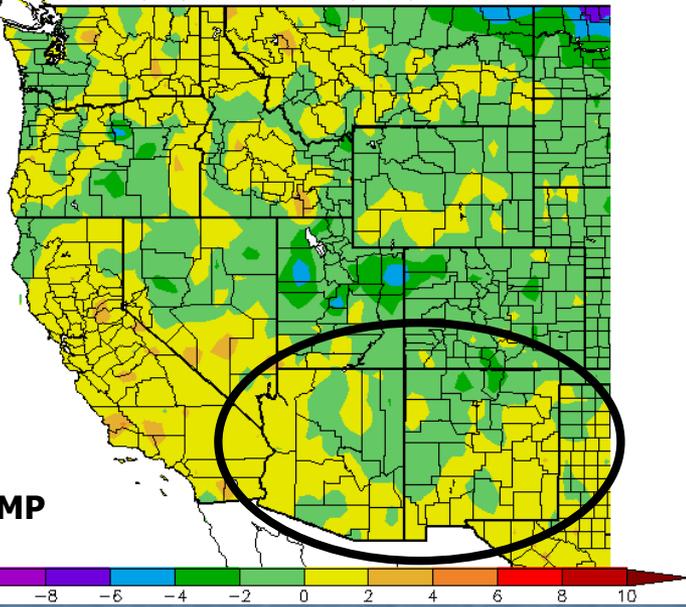
Fire Season 2013: Fine Fuels

- Overall drought means general lack of excessive, continuous fine fuels.
 - Wetter monsoon 2012 and winter 2012/2013 west of the divide leading to normal+ fine fuels availability, due to a combination of carryover from last summer and new growth this spring.
 - Below average fine fuel loading overall for west TX and much of NM.
- Main fine fuels growing season over or winding down rapidly across much of the region. Growth through April into May helped hold the fire season onset back awhile, but also continued to add to the fine fuel loading.



- Area of some fine fuels compaction by snowfall
- General area where fine fuels availability is seen as near normal or slightly above
- ? Questionable conditions or impacts

Ave. Temperature dep from Ave (deg F)
10/1/2012 - 5/27/2013



TEMP

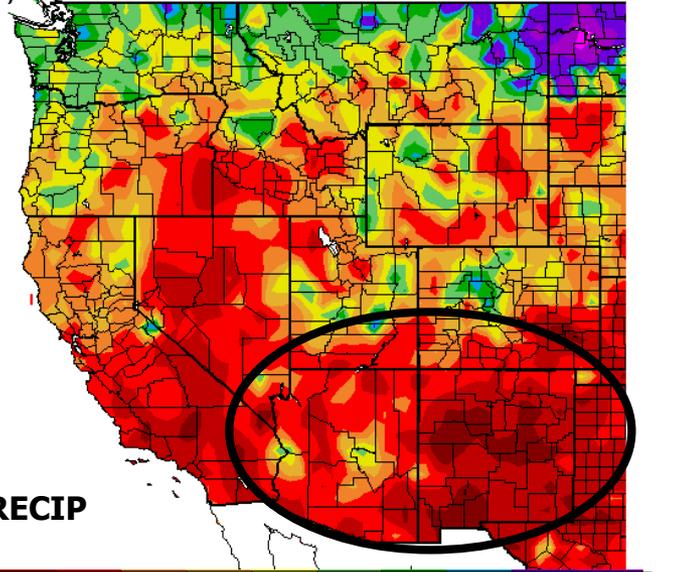


Fire Season 2013: OCT > MAY

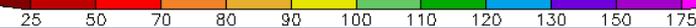
Temperature & Precipitation

- Overall dry, with fluctuating temperatures averaging on the normal to cool side.
- Main impacts: Drought continuance, early loss of snowpack, prolongation of what growing season there was.

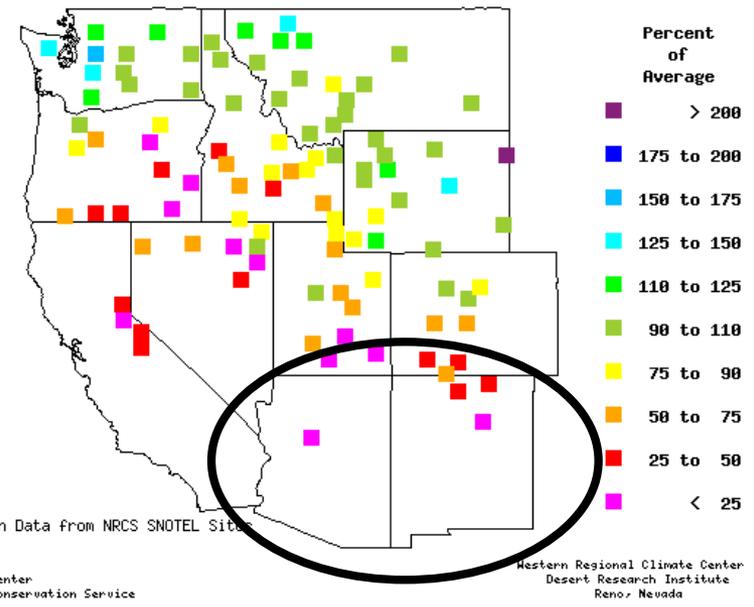
Percent of Average Precipitation (%)
10/1/2012 - 5/27/2013



PRECIP



Basin Average Snow Water Content. (% of Average.)



Report Date:
MAY 1, 2013

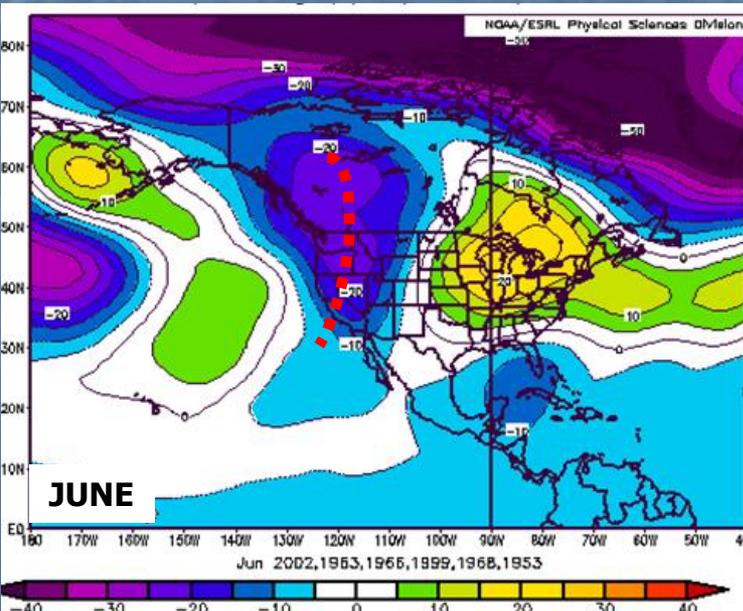
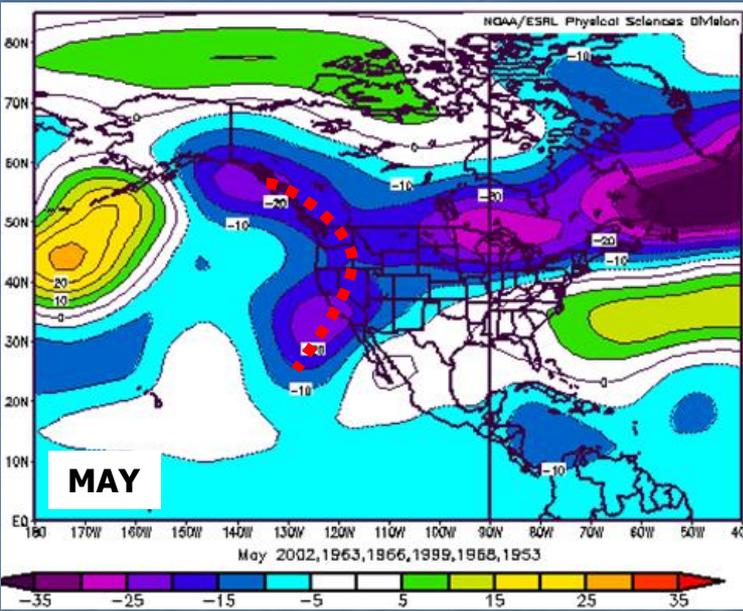
Provisional Data
Based on Mountain Data from NRCS SNOTEL Sites

Data provided by
Water and Climate Center
Natural Resources Conservation Service
Portland, Oregon

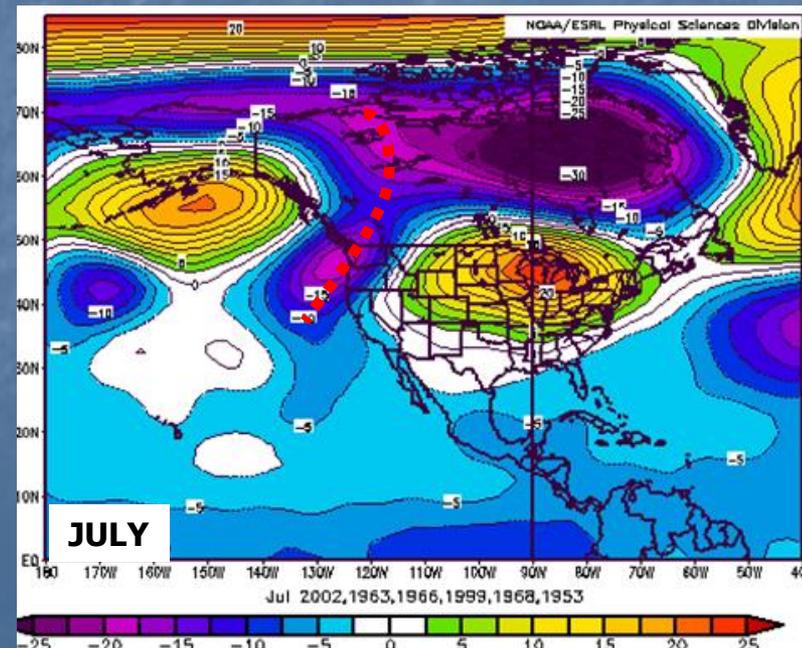
Western Regional Climate Center
Desert Research Institute
Reno, Nevada

Fire Season 2013: Spring & Early Summer Weather

'Big Picture' – Potential Mean Upper Level Pattern



- Models suggest west coast trough will return and linger from late May through June, before weakening and shifting northwestward in July
- This argues for a potential continuance of late May conditions into or even through June, before the monsoon ridge begins to exert a controlling influence.



Fire Season 2013: Spring & Early Summer

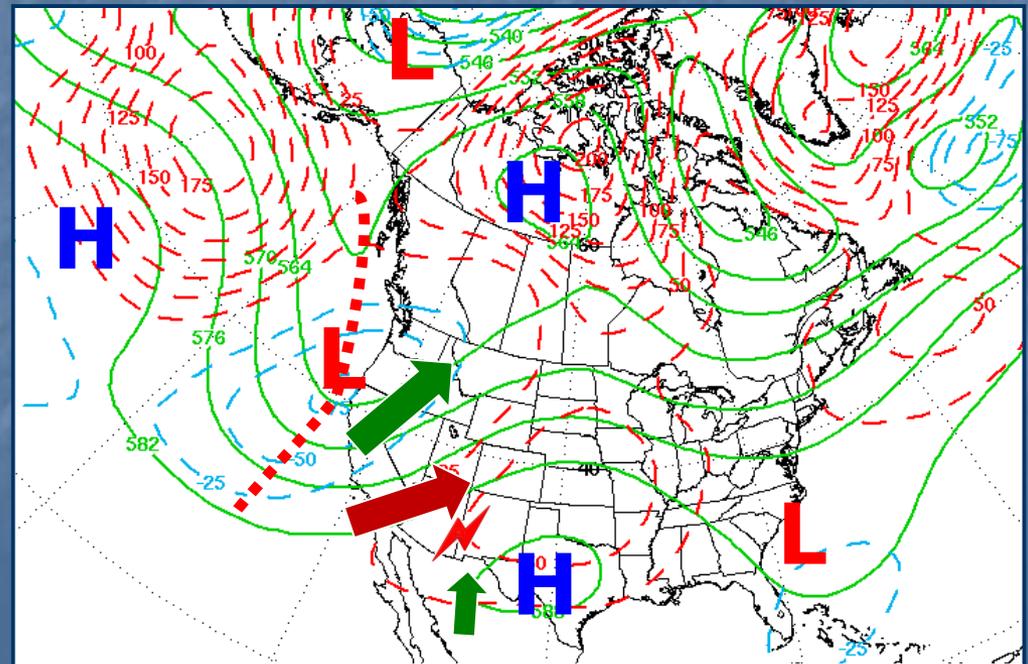
Weather Pattern Impacts

- Changeable pattern based on average west coast trough position, strength and trends as we move towards the start of the monsoon season in July.
 - Along/east of NM central mountain chain: Warm, with periodic dryline moisture/storm activity interspersed with drier, more breezy conditions
 - Western half NM/eastern half AZ: Warm, with periodic lightning (with little/no moisture) followed by drying SW wind events of varying magnitude.
 - Western half AZ: Tendency towards more persistent breezy/windy conditions, less lightning potential (until July) and cooler temperatures...especially after wind events.

 = Dry environment lightning potential

 = Windy/Dry Tendency

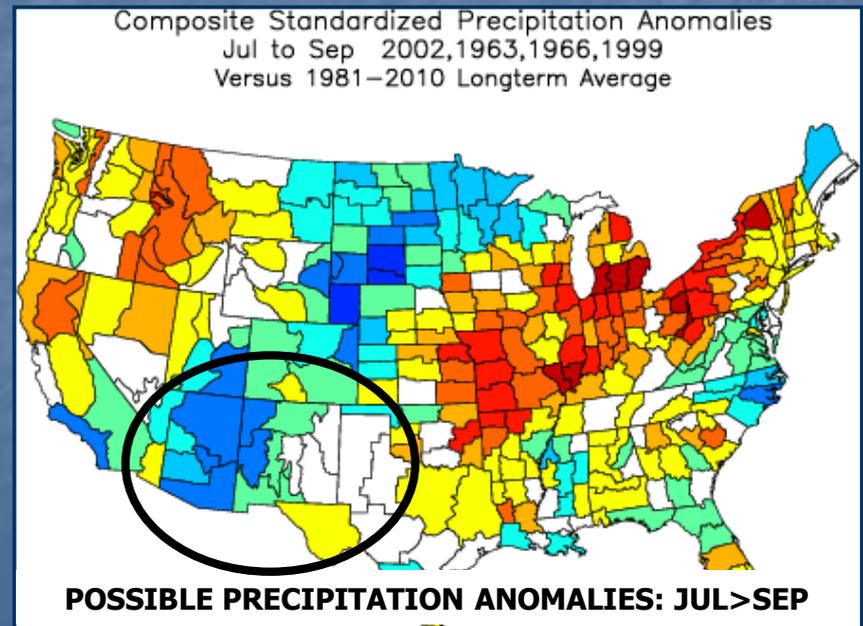
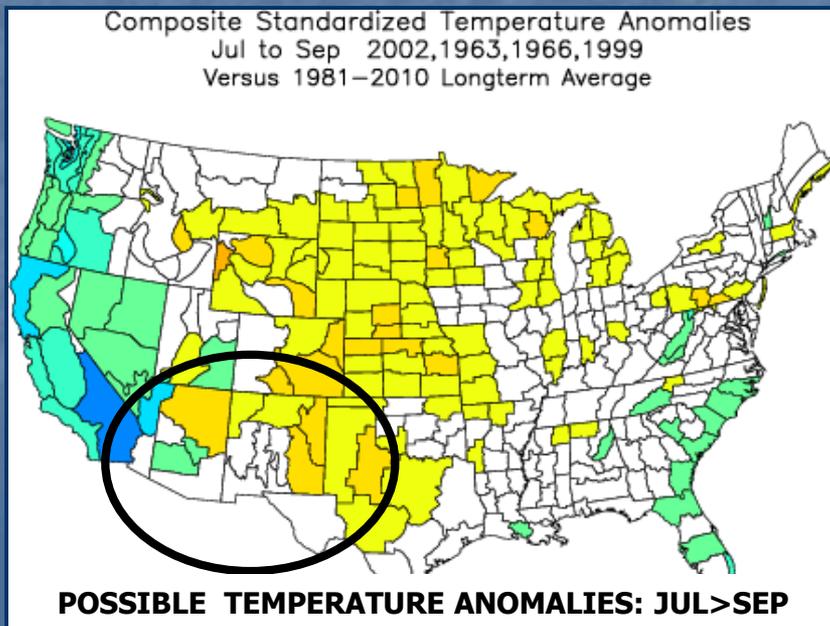
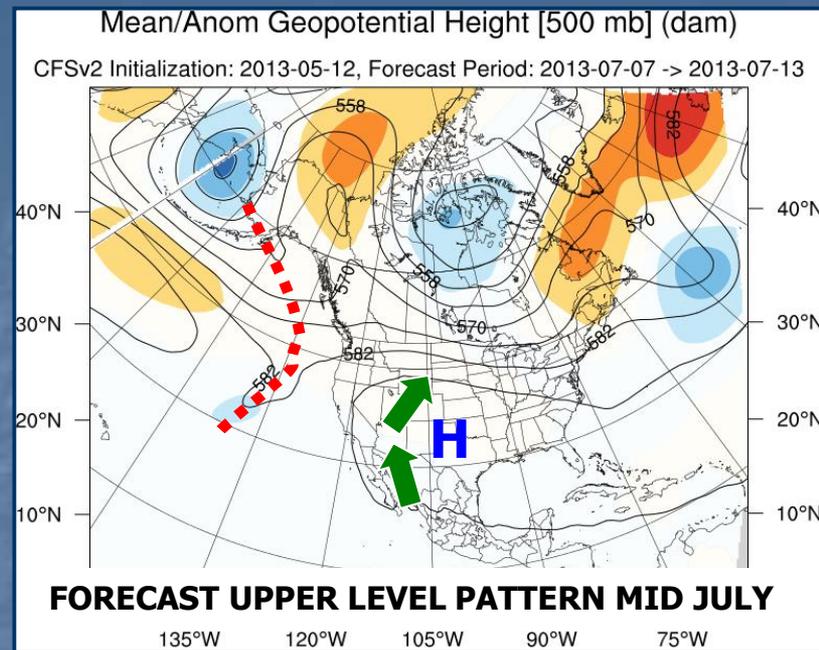
 = Moisture Transport Tendency



MOST LIKELY MEAN PATTERN – Late May through June

Fire Season 2013: Monsoon

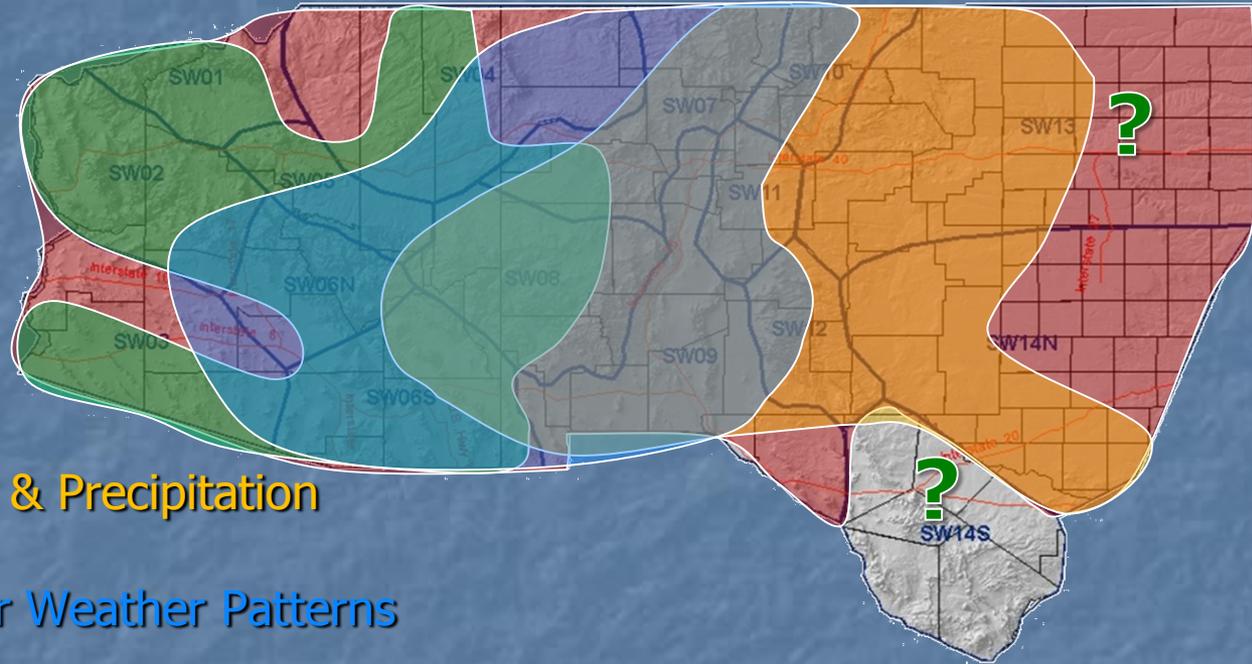
- Low confidence in general, especially considering lack of El Niño or La Niña (a.k.a. La Nada) as influencing factor
- That said, long range climate models and analog years both show the monsoon setting up by mid-July with a potential swath of good monsoon rainfall west & drier conditions east:



Fire Season 2013: Combined Fire Potential Factors

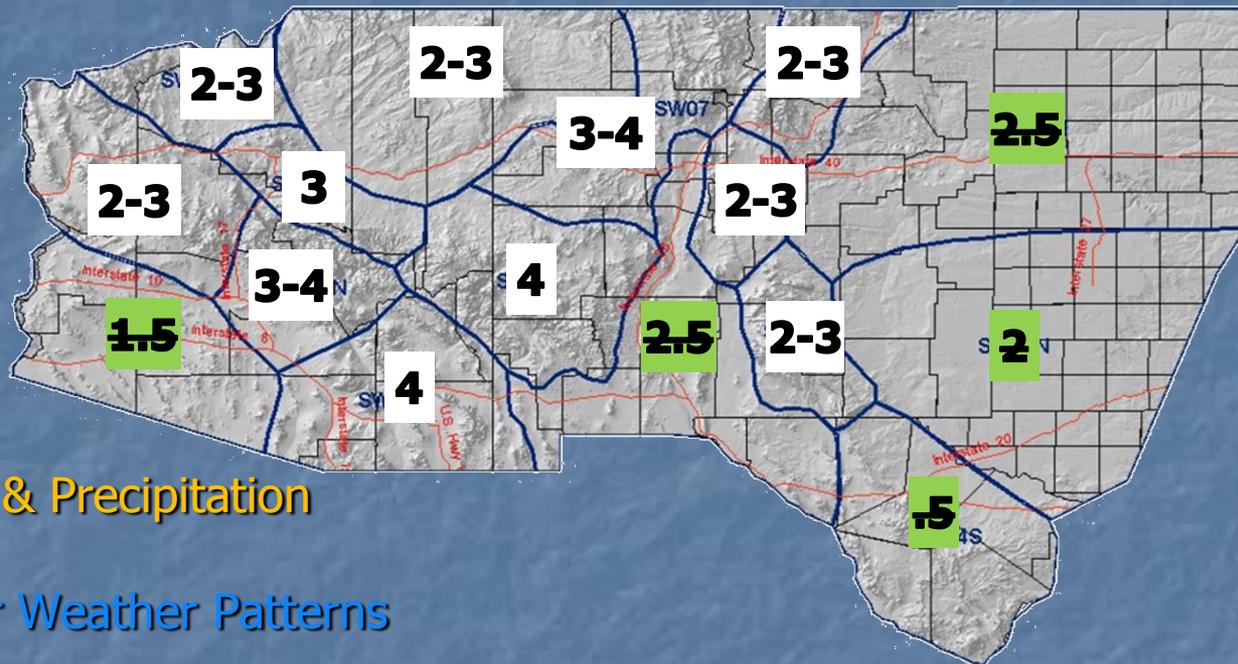
1. **Drought**
2. Fine Fuels Condition
3. Seasonal Temperature & Precipitation
4. Spring & early Summer Weather Patterns
5. Monsoon (not included here due to low confidence)

- Only factors which would support above normal fire potential are highlighted.
- A more complex/dynamic alignment of factors than some recent years.



Fire Season 2013: Number of Factors Aligning to Support Above Normal Seasonal Fire Potential

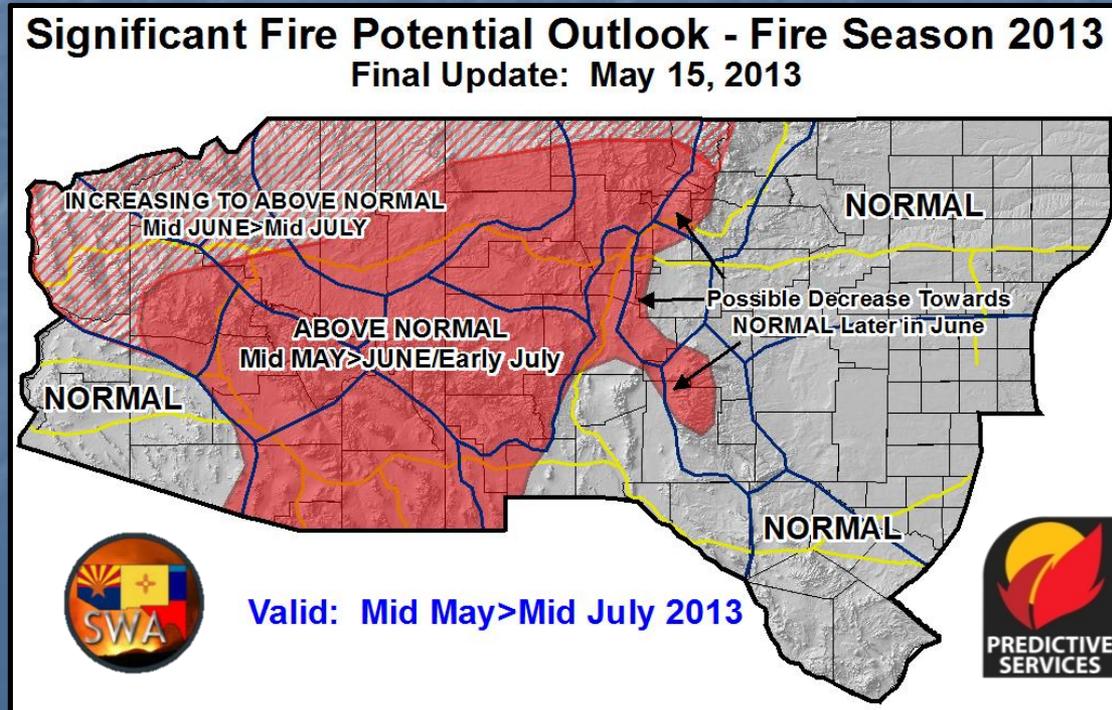
1. Drought
2. Fine Fuels Condition
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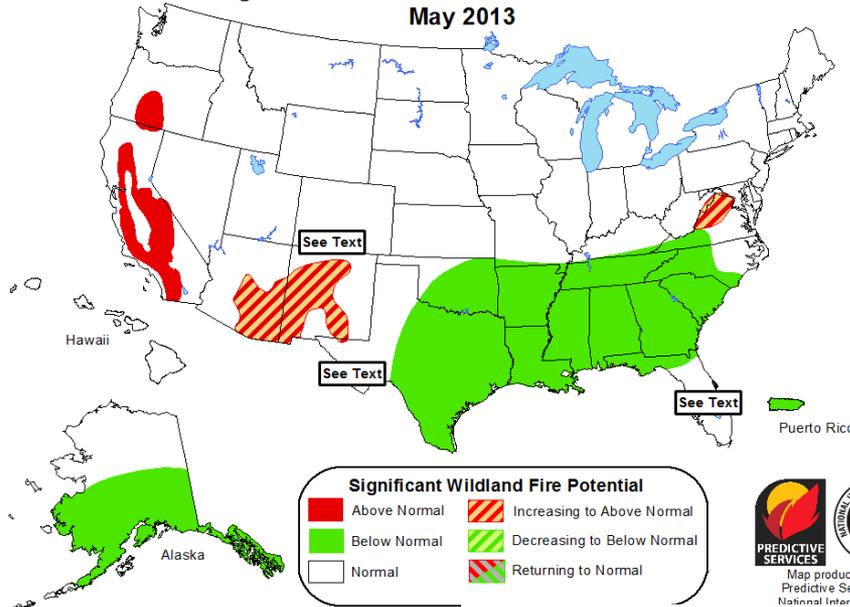
- **Monsoon** factor excluded for now, so these numbers represent total out of first 4 factors.
- **Green** shaded boxes indicate fine fuels dominated areas where #'s would be lower if fine fuels factor was given a higher weighting.

2013 Fire Season Potential Summary

- Mid May> Mid June: Above Normal fire potential in & near mountain areas of NM and across much of central & eastern AZ. (Drought impacts on heavier fuels, available fine fuels, max potential for lightning interspersed with drying wind events). *Potential improvement by late June for NM central mountain chain. (increased moisture, decreased drying & wind potential)*
- Mid June>Mid July: Expansion of Above Normal fire potential northwestward with additional heat, dryness & lightning potential.
- Overall Monsoon: Timely onset with potentially wetter conditions west half & drier east.
- Deciding Factor(s): Timing and alignment of drying wind events following lightning. Timing of transition to hotter/drier pattern that would rapidly increase fire potential northwestward. Rainfall potential with dryline storm activity east.



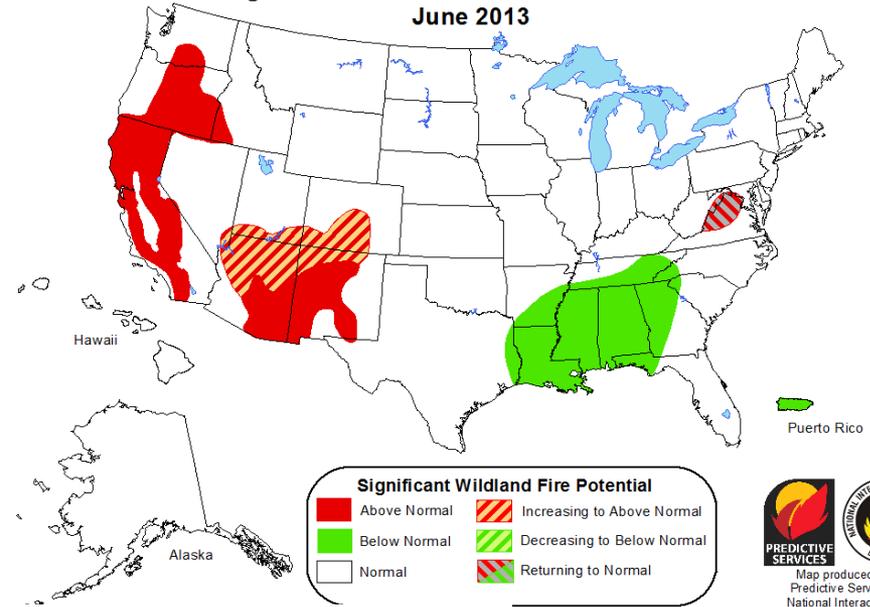
Significant Wildland Fire Potential Outlook May 2013



Significant Wildland Fire Potential

■ Above Normal	 Increasing to Above Normal
■ Below Normal	 Decreasing to Below Normal
 Normal	 Returning to Normal

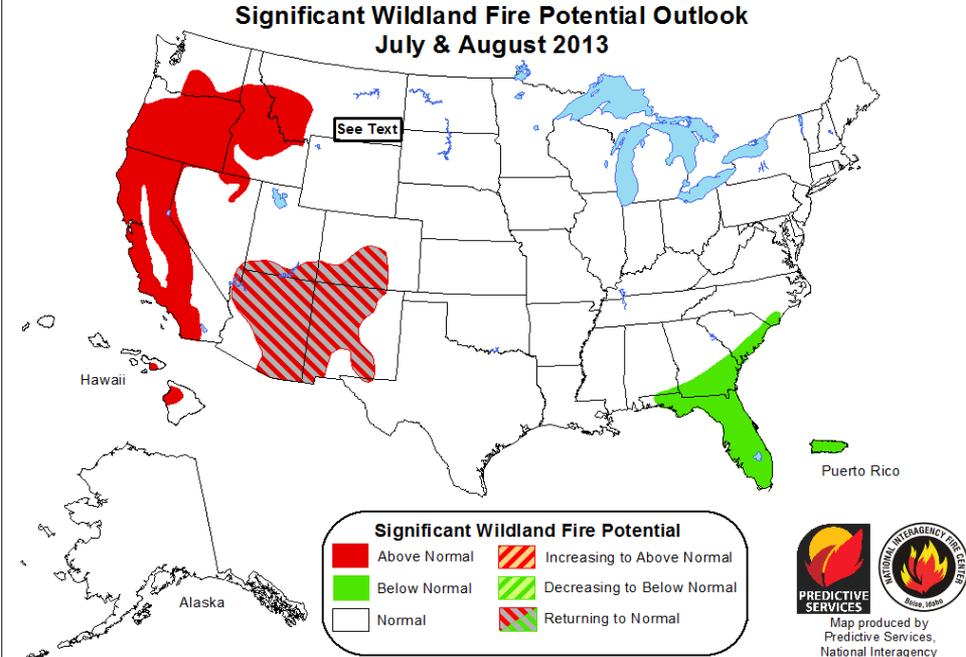
Significant Wildland Fire Potential Outlook June 2013



Significant Wildland Fire Potential

■ Above Normal	 Increasing to Above Normal
■ Below Normal	 Decreasing to Below Normal
 Normal	 Returning to Normal

Significant Wildland Fire Potential Outlook July & August 2013



Significant Wildland Fire Potential

■ Above Normal	 Increasing to Above Normal
■ Below Normal	 Decreasing to Below Normal
 Normal	 Returning to Normal

Above normal significant wildland fire potential indicates a higher than usual likelihood that wildland fires will occur and/or become significant events. Wildland fires are still expected to occur during forecasted normal conditions as would usually be expected during the outlook period. Significant wildland fires are still possible but less likely than usual during forecasted below normal periods.

Wildland fires will occur and/or become significant events as would usually be expected during forecasted below normal periods.

Map produced by
Predictive Services,
National Interagency
Coordination Center
Boise, Idaho
Issued May 1, 2013
Next issuance June 1, 2013

Above normal significant wildland fire potential indicates a higher than usual likelihood significant events. Wildland fires are still expected to occur during forecasted normal during the outlook period. Significant wildland fires are still possible but less likely the



END

SWCC Predictive Services

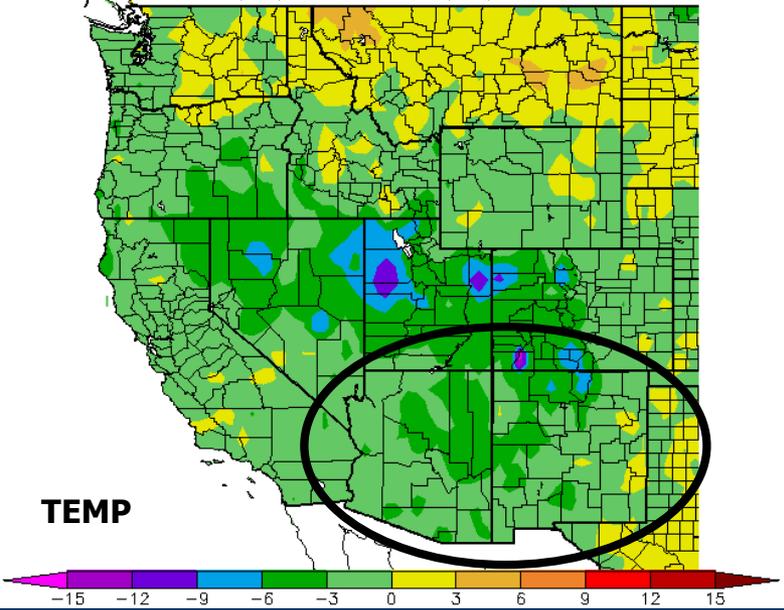
Please consult 7-Day and monthly fire potential outlook products for updated information through the remainder of fire season
gacc.nifc.gov/swcc/

Contact: Rich Naden, Chuck Maxwell, Predictive Services
Meteorologists

cmaxwell@fs.fed.us, 505-842-3419

rnaden@fs.fed.us, 505-842-3415

Ave. Temperature dep from Ave (deg F)
12/4/2012 - 3/3/2013

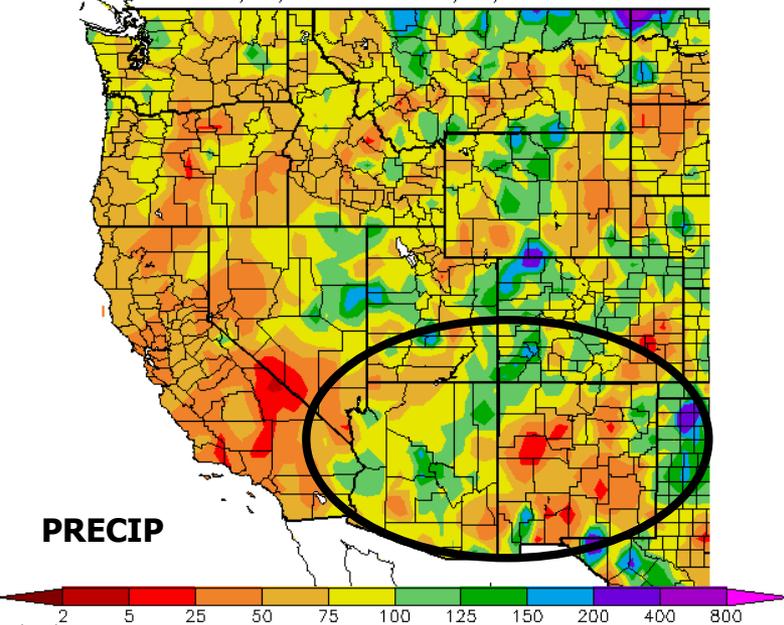


Fire Season 2013: DEC-FEB

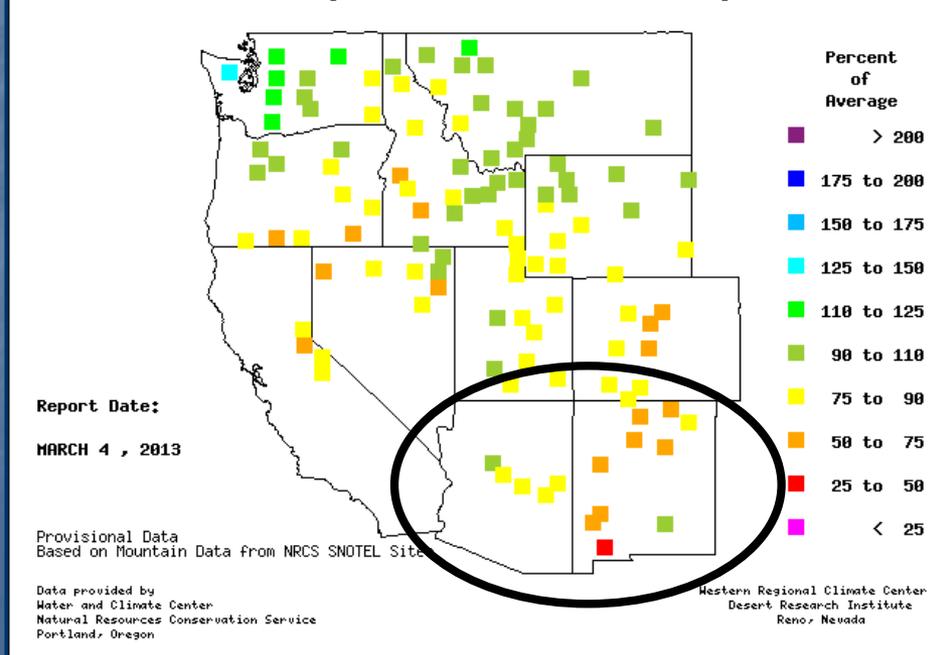
Winter Temperature & Precipitation

- Cold & dry overall, with areas of above normal precipitation limited to parts of AZ and west TX. Very dry in NM.
- Main impact some fine fuels compaction from snowfall and enhanced chance for spring growing season in moist areas.
- Snowpack generally 50-80% of average

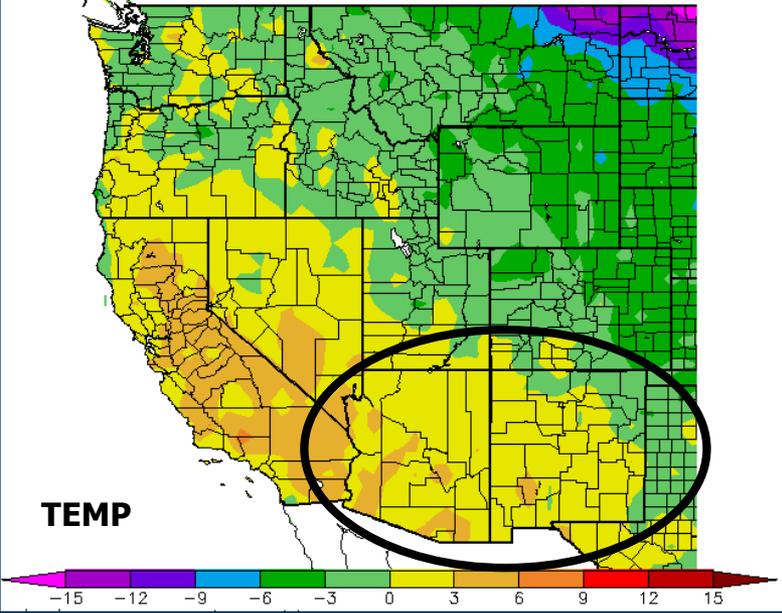
Percent of Average Precipitation (%)
12/4/2012 - 3/3/2013



Basin Average Snow Water Content. (% of Average.)



Ave. Temperature dep from Ave (deg F)
3/2/2013 - 4/30/2013

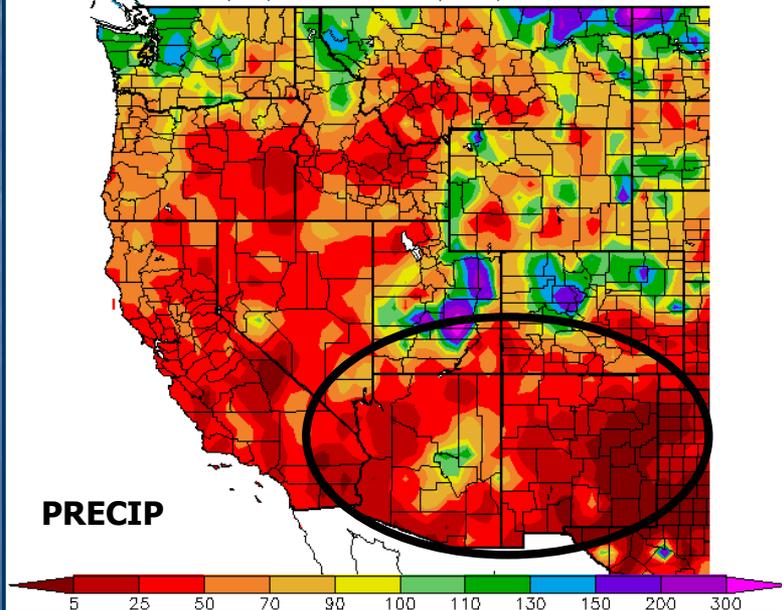


Fire Season 2013: MAR > APR

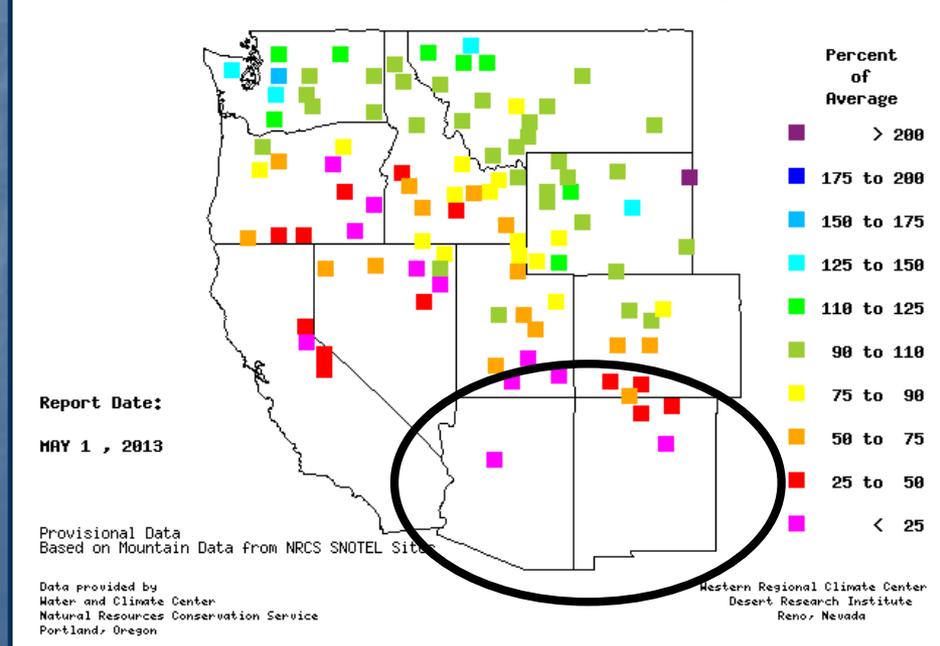
Temperature & Precipitation

- Generally dry, with above normal temperatures west and near to slightly below normal temperatures east.
- Main impacts: Fine fuels growing season western half with the warmth & prior moisture; general loss of snowpack due to dryness and/or warmth.
- Snowpack well below normal most areas.

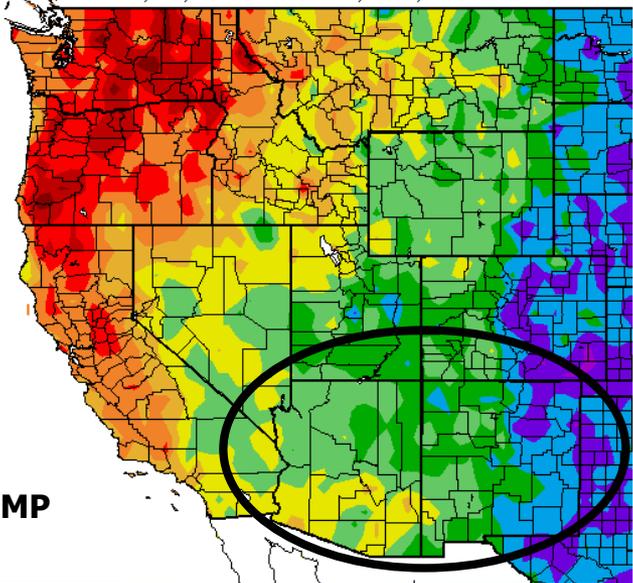
Percent of Average Precipitation (%)
3/2/2013 - 4/30/2013



Basin Average Snow Water Content. (% of Average.)



Ave. Temperature dep from Ave (deg F)
5/1/2013 - 5/12/2013



TEMP

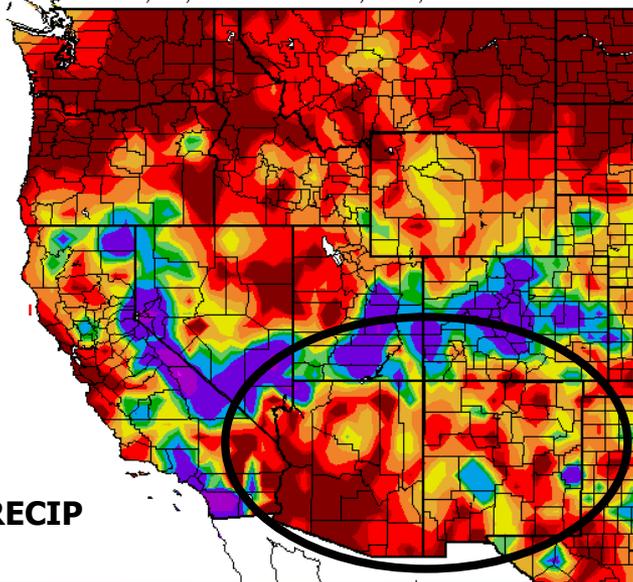


Fire Season 2013: MAY – 1st Half

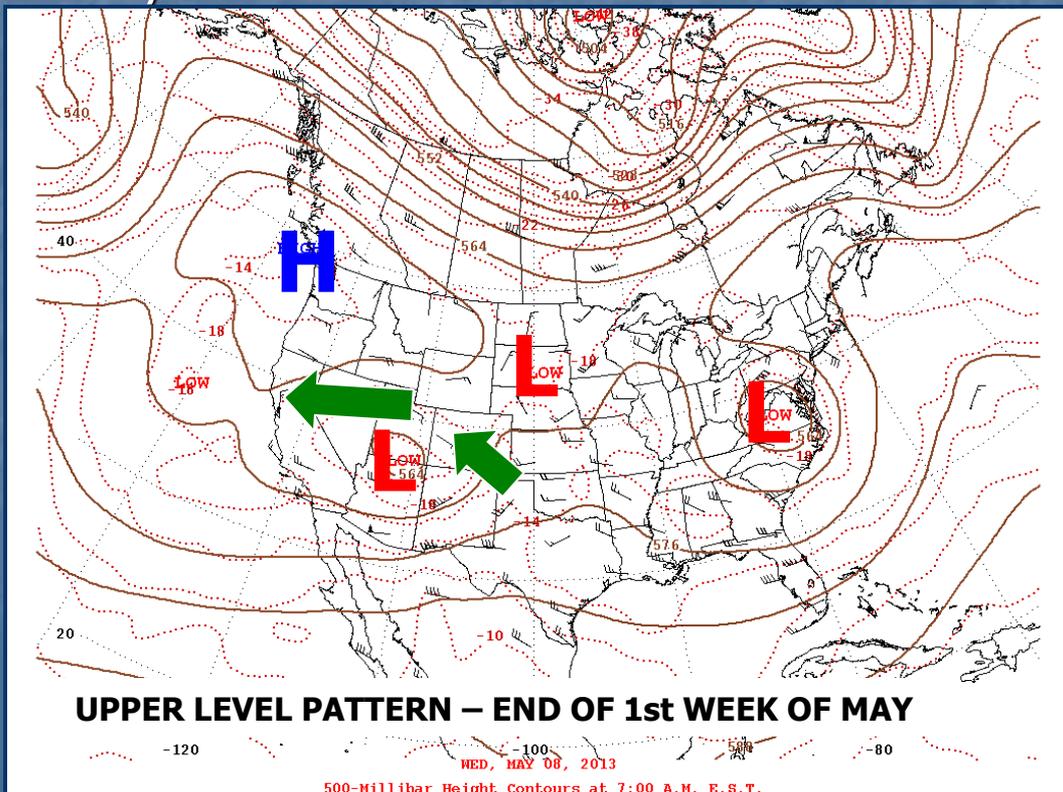
Temperature & Precipitation

- Generally cooler and more humid than normal, with some areas of light rainfall from showers/storms due to unusual, slow moving MAY system
- Fine fuels growing season prolonged a bit more and general peak fire season onset delayed...

Percent of Average Precipitation (%)
5/1/2013 - 5/12/2013



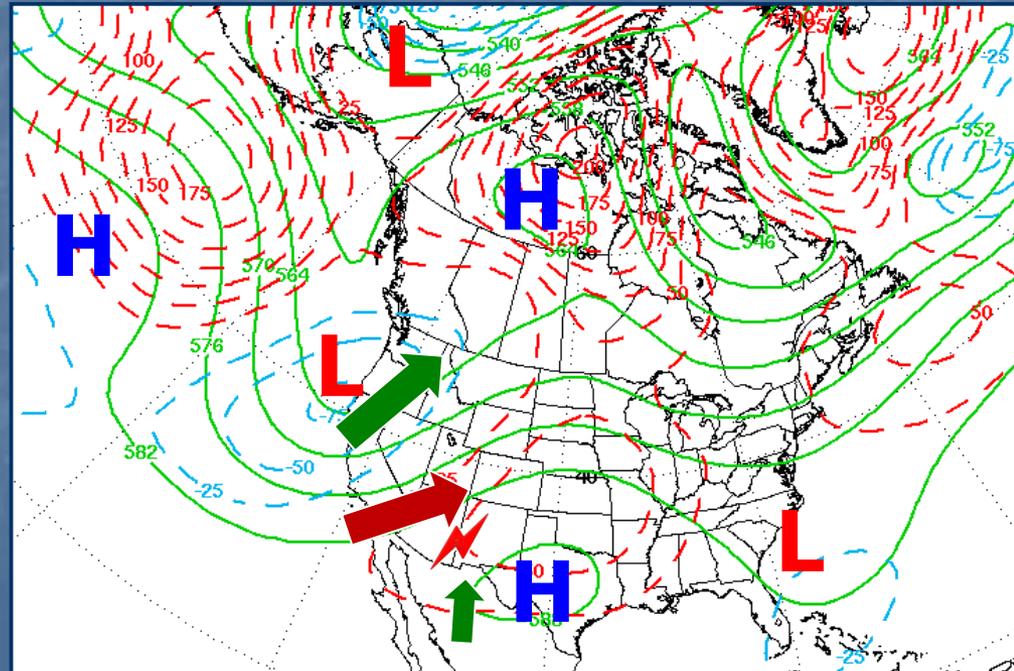
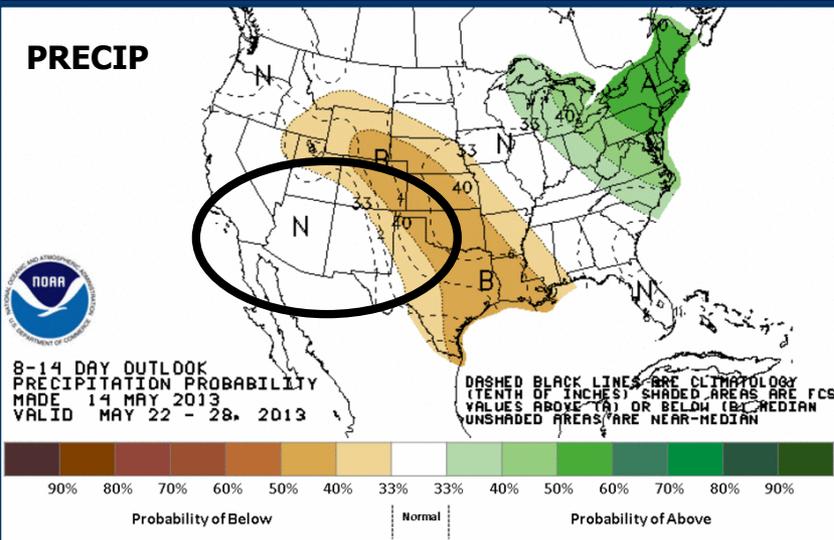
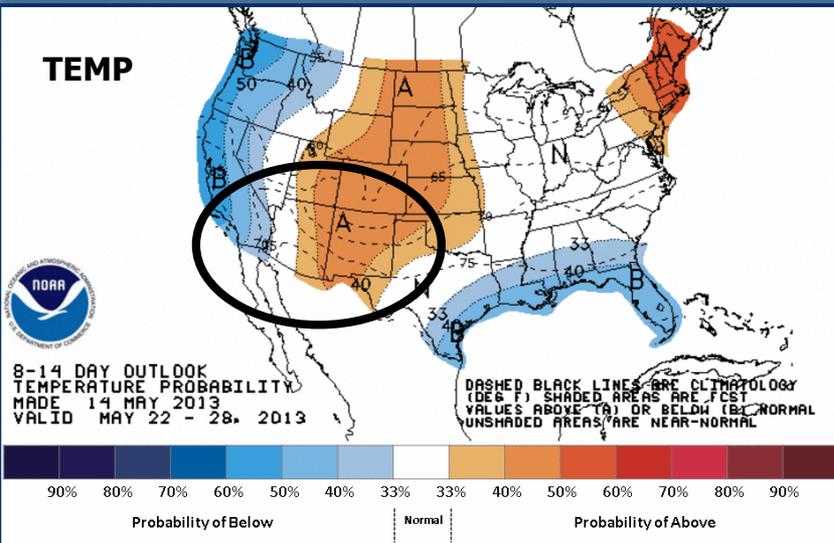
PRECIP



Fire Season 2013: MAY – 2nd Half

Temperature & Precipitation Outlook

- Return to west coast tough pattern should result in a temperature trend flip (warmer central/east, cooler west)
- Rainfall minimal, but potential lightning impacts western NM > eastern AZ
- Few windy/dry events focused along or west of the continental divide



All Told: The month of MAY should come out with below normal rainfall and near to slightly above normal temps (after the temp trend flip)

2013 Fire Season Factors Summary

1. Drought – Severe and ongoing. Increased volatility overall, with generally decreased potential in fine fuel regimes and increased volatility & potential in heavier fuels complexes.
2. Fine Fuels Condition – Normal+ west of the divide and generally below normal elsewhere.
3. Seasonal Temperature & Precipitation – Cold winter with dryness focused over NM. Dry spring overall across the entire region with a fluctuating temperature signal resulting in overall slightly above normal spring temperatures.
4. Spring & early Summer Weather Pattern – Mean west coast trough becoming re-established, but tending to drift further NW over time. Higher wind potential focused NW half of AZ, with dryline storm activity eastern plains, and potential for lightning interspersed with drying wind events in between.
5. Monsoon – Setup looks to occur by mid-July, with possible good moisture swath across the west and potentially dry conditions east.